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ABSTRACT

A study was conducted to determine: (1) the extent to which changes of self-report scores (between pretest and post-test) on a measure of defensiveness were related to changes of self-report scores (between pretest and post-test) on a measure of self-concept; and (2) if changes of self-report scores on a measure of defensiveness as covariates would significantly adjust changes of self-report scores on a measure of self-concept. The Tennessee Self-Concept Scale was used; the (openness to) "self-criticism scale was used as the measure of defensiveness, and the "total positive" score was used as the measure of self-concept. Data were drawn from treatment and control groups of Navajo boarding school adolescents (the treatment group participated in an individualized physical education program). Changes in scores for defensiveness correlated to an extent significantly greater than zero with changes in self-concept scores in both groups. Analysis of variance revealed that: (1) scores from the treatment group changed significantly more in the defensive direction than in the control group; and (2) the mean score change for self-concept in the treatment group was not significantly different from the mean change in the control group. The extent of increase in defensiveness scores tended to cancel out the change in self-concept scores. (KM)

Defensiveness as a Covariate in the Assessment of Self-Concept Change

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A. **Objectives of the Inquiry;**

Self-concept enhancement is often an objective in experimental programs. Evaluation in terms of that criterion is commonly based completely on the difference between pretest and posttest self-report scores from instruments which purportedly measure self-concept. Choderkoff, Coopersmith, Fitts, Foreman, Wylie, and others have discussed the theoretical importance of defensiveness as a variable to be considered in the assessment of self-concept by self-report. Yet, little experimental attention has been paid to the extent to which defensiveness may confound self-concept indications as assessed through self-report.

The objectives of this study were:

(1) to determine the extent to which changes of self-report scores (between pretest and posttest) on a measure of defensiveness were related to changes of self-report scores (between pretest and posttest) on a measure of self-concept.

(2) to determine if changes of self-report scores on a measure of defensiveness as covariates would significantly adjust changes of self-report scores on a measure of self-concept.

B. **Methods and/or Techniques used;**

The Tennessee Self-Concept Scale (TSCS) was used to assess defensiveness and self-concept by self-report on two scales which are scored from separate items. The (openness to) "self-criticism" scale was used as the self-report measure of defensiveness. The "total positive" score was used as the self-report measure of self-concept.

Changes in self-report scores from pretest to posttest were correlated for each individual between the two scales. An analysis of covariance was used to adjust changes in self-concept scores (dependent variable) on the bases of changes in defensiveness scores (independent variable).

C. **Data Sources;**

Data were drawn from treatment and control groups of Navajo boarding school adolescents (the treatment group participated in an individualized physical education program, while the control group remained in a more traditional group oriented program). The Navajos were selected because of indications from literature reviewed that the relationships between assessed defensiveness and self-concept may be more pronounced among people who are less acculturated and/or academically sophisticated. Also, testing of the target population during a previous year had indicated a possibility of confounding effects between the two variables.

D. **Results and/or Conclusions;**

Table 1. Relationship between Self-Report Scores of Defensiveness and Self-Concept.

	Mean change[1] in defensiveness raw scores	Correlation between changes in defensiveness & self-concept	Mean change[2] in self-concept raw scores
treatment group (N = 26)	- 2.6	-.39 ($p < .05$)	+2.9
control group (N = 53)	+1.0	-.35 ($p < .01$)	- 5.8

[1](posttest minus pretest) A higher score on pretest than posttest (a negative change) indicates greater defensiveness.

[2](posttest minus pretest) A lower score on pretest than posttest (a positive change) indicates enhanced self-concept.

From Table 1 it may be seen that changes in self-report scores (between pretest and posttest) for defensiveness correlated to an extent significantly greater than zeor with changes in self-report scores (between pretest and posttest) for self-concept in both the treatment and control groups.

(over)

Table 2. Significance of the Regression of Self-Concept on Defensiveness.

	Defensiveness change[1] in treatment group minus change in the control group	F	p	Self-Concept change[2] in treatment group minus change in the control group	F	p
ANOVA of changes in the treatment group as compared to the changes in the control group. (df=1/66)	- 3.6	6.65	$<.025$	+8.7	1.90	nsd
ANOCOVA using change in defensiveness as the covariate, or independent variable (df=1/76)				+2.7	.20	msd
Regression (df=1/76)				- 6.0	11.72	$<.002$

[1]Change in the negative direction is indicative of greater defensiveness in the treatment group.

[2]Change in the positive direction is indicative of enhanced self-concept in the treatment group.

From Table 2 it may be seen from the ANOVA that self-report scores from the treatment group changed significantly more in the defensive direction than in the control group. The ANOVA also indicates that the mean self-report score change for self-concept in the treatment group was not significantly different from the mean change in the control group.

When ANOCOVA was used the difference in self-report scores from the treatment group and control groups was reduced by 6.0 raw score points. This is greater than the standard error of change in either the treatment or the control group. The regression of change in self-report scores of self-concept on change in defensiveness scores was highly significant ($P < .002$).

In this study the extent of increase in self-report scores for defensiveness tended to cancel out the change in self-report scores for self-concept. If the ANOVA had indicated statistical significance for change in self-concept, consideration of the extent to which defensiveness increased would have made that change less noteworthy. On the other hand, if the subjects in the treatment group had achieved self-report scores indicative of less defensiveness after treatment the changes in self-report scores for self-concept might have been significant. In either case, the linear relationship between these two variables is an important consideration in evaluating the efficiency of programs in terms of self-report scores.

E. **Scientific or Educational Importance of the Study;**

The magnitude of the correlations and covariant adjustments obtained in this study indicates that measured self-concept should not be accepted in terms of a single self-report score. Supplementary data gleaned from other populations indicates that the relationship between self-report scores for defensiveness and self-concept found in this study is not a unique feature to the population studied. The relationship may be less strong in other populations, but its presence warrants careful consideration in data interpretation. This is not to suggest that defensiveness is the only covariate to consider, but that several others such as anxiety, ideals, aspirations may be of equal or greater importance. The major importance of the study is in its confirmation that self-concept is too complex a construct to be interpreted in terms of a single self-report score.